201 An evaluation of actual versus perceived use of the I-neb by 10 adult CF patients to assess potential benefits of self monitoring online tool on adherence to nebulised therapy recommendations

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The I-neb Adaptive aerosol device (AAD) is used widely by CF patients.
The introduction of an online assessment tool facilitates patient self monitoring of nebuliser efficiency, treatment times and breathing techniques.
Aim: To download and evaluate the use of the I-neb over a period of 1 year by 10 patients; comparing this information with the patients perceived use of the device to identify the potential benefit of a patient self monitoring tool on treatment concordance.
Method: I-neb data from a 12 month period was downloaded from 10 patients who were issued with a short questionnaire asking them to outline how they had used their nebuliser. The results were returned to the CF Physiotherapist and feedback was compared with the downloaded data.
Results: 70% of patients perceived their I-neb use to be higher than the data downloaded (11.56% and 70.88%) 3 patients underestimated their use ((0.48%-1.5%). Patients perceived that the I-neb provided a quick (80% estimated <5 mins) and efficient (80% estimated >75% dose delivery) method of drug delivery. The actual % dose which the patients received ranged from between 94–100% (average 98.4%) 80% perceived that they received >75% each treatment. With 20% perceiving their dose to be between 50 and 75%.
80% of patients expressed interest in the availability of a tool which provided feedback on frequency of I-neb use, time taken, % dose delivered and quality of the mesh of the device.
Conclusion: Patient interest in an online method of self assessment tool indicates that this could be an effective method of improving concordance with treatment recommendations and reducing the gap between perceived and actual I-neb usage.

202 Nebuliser strategies in cystic fibrosis in Ireland. Results of a national audit

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Objectives: Nebuliser therapy is a vital component of CF care. Recent advances using mesh nebulisation (eFlow®) techniques offer improved delivery times for patients compared to traditional jet nebulisers (Portaneb®, PARI BOY®). This audit aims to examine current nebuliser strategies in Irish CF centres.
Methods: A nebuliser-use questionnaire was sent to 14 designated CF centres in Ireland for completion by the senior CF physiotherapist.
Conclusions: 6 of 10 paediatric and 3 of 4 adult centres replied. All centres report using Portaneb® nebulisers. eFlow® nebulisers were prescribed in 50% of paediatric and adult centres, but only in centres where physiotherapists were responsible for deciding nebuliser strategy. In the centres using eFlow®, 4 of 5 reported less than 25% of patients using an eFlow® device. Only one centre reported local health authority/ industry funding to support the purchase of these devices. This centre also had higher eFlow® use (50% of patients).
Traditional Portaneb® nebulisers are the mainstay of nebuliser therapy. Whilst newer mesh technology devices were used in over half of Irish CF centres, the absolute number using same was small. The reason for this low level of eFlow® usage is beyond the remits of this study. However, centre preference, direct phyisotherapist involvement and funding are possible contributory factors. Further studies are required to determine the factors that influence this to allow the development of a standardized national strategy.

203 A review of the use of hypertonic saline 7% during inpatient treatment in paediatric cystic fibrosis patients

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Background: The inhalation of hypertonic saline 7% (H.S.) has been shown to be an effective mucolytic agent and a safe, low cost intervention for CF patients. In the Southampton paediatric CF centre, we have altered our practise for the use of H.S. during inpatient treatment. Since October 2010 all patients admitted for pulmonary exacerbations are given H.S. pre airway clearance. All patients are treated with a bronchodilator.
Method: A retrospective review was performed of the notes for all inpatients over the past year. Any issues with tolerability of H.S. were recorded. Positive and negative responses to H.S. were identified.
Results: All patients whilst in hospital received H.S. via a Pari LC plus to maximise tolerance.
20 patients were reviewed with an age range of 18 mnths – 16 years.
19/20 had an increase in productive cough.
1/20 had no positive effect.
13/20 tolerated H.S. from the initial dose.
7/20 required further doses to achieve tolerance due to excessive cough. 4 of this group had problems with excessive cough and nausea.
No children demonstrated bronchospasm even if previous evidence of bronchial hyper reactivity.
8 patients continued to use H.S. at home.
Conclusion: We found a good level of acceptance of H.S. as an additional treatment during in patient stays. Patients and parents expressed positive views about the immediate effect of increased cough and sputum clearance, as this is uncommon in most CF treatments. Excessive cough and nausea experienced by some patients subsided with subsequent doses and enabled continuation of treatment. Interestingly patients who have previously used H.S. retained their tolerability.

204 Complaining about time administration of colistimethate sodium via I-Neb®: preliminary results

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Background: Time requirements for multiple daily nebulizations may affect the quality of life for the majority of patients with cystic fibrosis (CF). The I-Neb® Adaptive Aerosol Delivery (AAD) system can lead to shorter treatment times: when operating in Tidal Breathing Mode (TBM), the AAD system calculates the maximum flow for each breath and how long the patient breathes in for. Since I-Neb® was introduced in our CF centre, it happened that some patients complained about long time requirements.
Aim: We therefore decided to preliminary investigate any relation between treatment duration and some clinical parameters.
Methods: Patients were retrospectively recruited if compliance data were available and only if they had already completed one cycle of therapy, to exclude poor familiarity with the device. Sample was statistically described and preliminary processed using Spearman correlation.
Results: 849 treatments were recorded, 100% in TBM mode. Mean administration time was 4.58 minutes (min) (sd 1.97 range 1–17). 12.13% of treatments lasted more than 7 min and 86.3% were inhaled by men. Patients' ($n = 10$, 30% females) mean age was 29.5 years (sd 9.4 range 16.7–48.6) with mean FEV_1 1.38 L (sd 0.75 range 0.48–2.99), mean FVC 2.45 L (sd 1.05 range 0.54–3.85) and mean BMI 20 kg/m^2 (sd 3.17 range 16.4–26.13). Patients spent on average 4.8 min (s.d 2.23) ci [3.20; 6.40] to inhale the same drug. Statistically significant lack of independence between mean time of inhalation and BMI ($\rho = 0.72$, d.f. 8 $p = 0.01$) was found.
Conclusions: Rigorous assumptions and larger sample size need to be considered to further investigate the relationship between nebulization time and disease progression.